

STAR

ANNUAL INDEXES JANUARY-DECEMBER 1970

SECTION I

SUBJECT INDEX (A-Leu)



DECEMBER 31, 1970

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N70-16001—N70-43200

Public Documents

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

SCIENTIFIC AND TECHNICAL INFORMATION OFFICE

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Scientific and Technical Aerospace Reports

Annual indexes (Section I) January-December 1970



SPECIAL NOTICE

The abstract sections of the semimonthly *STAR* journals can be bound separately. Individual abstracts can be located readily by means of the page numbers given at each index entry, e.g. 22 p 4190. To assist the user in binding *STAR* Volume 8, four (4) title pages are included in the back of Section I of the Annual indexes.

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NOTICE TO THE PUBLIC

TO ALL WHOM THESE PRESENTS SHALL COME, I, the President of the United States, do hereby give notice that the following is the text of the Executive Order which I have signed on the 15th day of January, 1935, and which is hereby published for the information of the public:

SPECIAL NOTICE

The Special Section of the Department of the Interior, State Bureau of Land Management, has been organized to handle the business of the Department in connection with the administration of the public lands. It is hereby notified that the Special Section is now in operation and is ready to receive applications for the acquisition of public lands, and for the disposal of the same. It is also notified that the Special Section is now in operation and is ready to receive applications for the acquisition of public lands, and for the disposal of the same.

It is further notified that the Special Section is now in operation and is ready to receive applications for the acquisition of public lands, and for the disposal of the same. It is also notified that the Special Section is now in operation and is ready to receive applications for the acquisition of public lands, and for the disposal of the same.

Scientific and Technical



Aerospace Reports

Annual Indexes (Section I) January-December 1970

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In addition to these identifying numbers, each entry in the Subject Index contains a Notation of Content (a brief description of the contents of the document); each entry in the Personal Author and Corporate Source Indexes contains the name of the document. **Page**

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Each entry in these indexes includes a group of identifying numbers in the following form: 08 0 1745 NTG-17456. The first two digits (08) identify the issue in which the document was announced. The "0" stands for page number, and the four digits that follow (1745) refer to the page number, in the designated issue, on which the abstract of the document appears. The next group of numbers (NTG-17456) is the NASA Accession Number, a unique identification number assigned by NASA to each document that was acquired, indexed, and abstracted.

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NT ELECTRON EMISSION
NT NEUTRON EMISSION
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Introduction

WHAT STAR ANNUAL INDEXES ARE

These Annual Indexes are edited consolidations of the indexes to the individual issues of *Scientific and Technical Aerospace Reports (STAR)* for the calendar year 1970 (Volume 8, Numbers 1 through 24). For the convenience of the user, they are divided into four sections, each bound separately. Sections I and II contain the Subject Index. Section III contains the Personal Author Index. Section IV contains a Corporate Source Index, a Contract Number Index, a Report/Accession Number Index, and an Accession Number/Report Index. The Annual Indexes supersede the semimonthly and semiannual indexes previously issued during 1970.

Each entry in these indexes includes a group of identifying numbers in the following form: 06 p 1146 N70-17456. The first two digits (06) identify the issue in which the document was announced. The "p" stands for page number, and the four digits that follow (1146) refer to the page number, in the designated issue, on which the abstract of the document appears. The next group of numbers (N70-17456) is the NASA Accession Number, a unique identification number assigned by NASA to each document that was acquired, indexed, and announced in *STAR* during the year.

In addition to these identifying numbers, each entry in the Subject Index contains a Notation of Content (a brief description of the contents of the document); each entry in the Personal Author and Corporate Source Indexes contains the exact title of the document.

At the beginning of each index in this cumulation, a typical listing is illustrated with each of its elements identified to assist the reader in using the different types of index entries.

HOW TO USE THE SUBJECT INDEX

Subject terms in this cumulative index are arranged alphabetically, and are supplemented with cross-references which are intended to serve as directions that will enable the user to modify, enlarge, or narrow his search in accordance with his specific interests. Two types of cross-references are used:

1. Use (U) references indicate that the subject term is not "postable", i.e., not a valid term, and that the following term or terms are used instead. For example,

COLUMBIUM

U NIOBIUM

ANNULAR JETS

U ANNULAR FLOW

U JET FLOW

2. Narrower Term (NT) references refer the user to more specific headings in the same subject area, under which additional material on the subject may be found.

For example:

EMISSION

NT ELECTRON EMISSION

NT NEUTRON EMISSION

NT THERMAL EMISSION

Finally, a searcher should use the notations of content in the index to narrow further his quest for particular items. This is because subject terms can readily refer to more than one class of document. For example:

CATHODES

Cesium plasma cathodes as sources of high intensity electron beams.

Cathode material testing in electrochemical half cells.

illustrates a case where two references on different topics are listed under the same subject term.

HOW TO USE THE CORPORATE SOURCE INDEX

The corporate source index entries are abridged versions of the corporate sources used in the abstract-section citations in the individual issue supplements. The corporate source supplementary (organizational component) does not appear in the index. For example:

NEW MEXICO STATE UNIV. LAS CRUCES. DEPARTMENT OF BIOLOGY.

(Corporate source at citation)

NEW MEXICO STATE UNIV. LAS CRUCES.

(Corporate source index entry)

HOW TO USE THE PERSONAL AUTHOR INDEX

All personal authors used in the abstract-section citations in the individual *STAR* issues appear in this index. Differences in transliteration schemes may require multiple searching of the index for variants of an author's name. For example:

EMELIANOV, M. D.

YEMELIANOV, M. D.

A COMPREHENSIVE INFORMATION SERVICE

The National Aeronautics and Space Administration makes the results of worldwide research and development activities in aeronautics, space, and supporting disciplines promptly available to participants in its programs. NASA's scientific and technical information system now contains nearly a million documents, which are abstracted, indexed, and obtainable through retrieval and dissemination services. These services, which include the abstract journal, *Scientific and Technical Aerospace Reports (STAR)*, are described fully in a bulletin, *The NASA Scientific and Technical Information System . . . and How to Use It*, available at no charge from the NASA Scientific and Technical Information Facility, P.O. Box 33, College Park, Maryland 20740.

STAR—A REPORT ABSTRACTING SERVICE

STAR is a comprehensive abstracting and indexing journal covering current worldwide report literature on the science and technology of space and aeronautics. Publications abstracted in *STAR* include scientific and technical reports issued by NASA and its contractors, other U.S. Government agencies, and corporations, universities, and research organizations throughout the world. Pertinent theses, NASA-owned patents and patent applications, translations, and other separate documents are also abstracted. Citations and abstracts in *STAR* are grouped in 34 subject categories. Six indexes are included in each issue: subject, personal author, corporate source, contract number, report/accession number, and accession/report number. Cumulative index volumes are published semiannually and annually.

STAR, which is issued on the 8th and 23rd of each month, is available to the public on subscription from the Superintendent of Documents, U.S. Government Printing Office, as noted on the inside cover. *STAR* is sent without charge to:

1. NASA Offices, Centers, contractors, subcontractors, grantees, and consultants;
2. Other U.S. Government agencies and their contractors;
3. Libraries in the United States that have arrangements with NASA to maintain collections of NASA documents for public use;
4. Other organizations in the United States having a need for NASA documents in work related to the aerospace program; and
5. Foreign government or academic organizations that have established appropriate reciprocal arrangements with NASA.

Those eligible to receive *STAR* without charge should address their requests to the NASA Scientific and Technical Information Facility.

ABSTRACTS OF NON-REPORT LITERATURE

By arrangement between NASA and the American Institute of Aeronautics and Astronautics, the AIAA publication *International Aerospace Abstracts (IAA)* provides parallel coverage of scientific and trade journals, books, and conference papers in the same subject areas as the reports abstracted in *STAR*. *STAR* and *IAA* are categorized and abstracted in basically identical ways, and documents in both are indexed by terms from the *NASA Thesaurus*. Both journals appear twice monthly. *IAA* is issued on the 1st and 15th of each month.

IAA is available on subscription from the American Institute of Aeronautics and Astronautics, Technical Information Service, 750 Third Avenue, New York, New York, 10017, at the following annual rates:

Semimonthly issues: United States and possessions, \$75 postpaid; foreign countries, \$90 postpaid.

Cumulated index volumes: United States and possessions, \$30 postpaid; foreign countries, \$35 postpaid.

PUBLIC AVAILABILITY OF DOCUMENTS ANNOUNCED IN *STAR*

The source of documents announced in *STAR* varies, depending upon the organization which has originated and/or issued the document and the form (paper copy or microfiche⁽¹⁾) in which the document can be provided. Documents produced by NASA, including its contractor and grantee documents, are identified by an asterisk (*) following the accession number (e.g., N70-12345*). Most of the NASA documents and many of the documents issued by other organizations have had microfiche copies produced. Those documents that can be obtained from some source on microfiche are indicated in *STAR* by the # symbol following the NASA accession number. All documents for which microfiche can be obtained are also available as facsimile or, for some, as printed copies.

Documents that can not be microfiched but for which one-to-one facsimile can be provided are indicated by a plus (+) instead of the # sign. Documents for which neither the + nor # symbol is shown, and for which no availability other than the issuing activity is given, may present unusual problems of reproducibility. The originator of such a document should be consulted as to its availability.

(1) A microfiche is a transparent sheet of film, 105 x 148 mm in size, containing up to 72 pages of information reduced to micro images (not to exceed 20:1 reduction).

A source from which a document announced in *STAR* is available to the public is ordinarily given on the last line of the citation. The NASA accession number is sufficient when ordering NASA and NASA-sponsored documents from NTIS. When ordering *non*-NASA documents (no asterisk) from the issuing agency or other sources, particularly NTIS, it is essential that additional bibliographic information such as the report number be given.

The following are the most commonly indicated sources (full addresses of these organizations are listed at the end of this Introduction):

- Avail: CFSTI or NTIS⁽¹⁾. Sold by the National Technical Information Service at a standard price of \$3.00 for hard copy (printed, facsimile, or reproduced from microcopy) of less than 550 pages for NASA and NASA supported documents and \$10.00 for NASA and NASA supported documents in excess of 550 pages up to and including 1100 pages. Documents in excess of 1100 pages are priced individually by NTIS. Microfiche is available from NTIS for 95 cents for those documents identified by the # sign following the accession number (e.g.: N70-12345 #).
- Avail: SOD (or GPO). Sold by the Superintendent of Documents, U.S. Government Printing Office, in hard copy. The price is given following the availability line. (An order received by NTIS for one of these documents will be filled at the SOD price if hard copy is requested. NTIS will also fill microfiche requests, at the standard 95 cent price, for those documents identified by a # symbol. SOD does not sell microfiche.)
- Avail: NASA Scientific and Technical Information Office. Documents with this availability are usually news releases or informational brochures available without charge in paper copy.
- Avail: AEC Depository Libraries. Organizations in U.S. cities and abroad that maintain collections of U.S. Atomic Energy Commission reports, usually in microfiche form, are listed in *Nuclear Science Abstracts*. Services available from the USAEC and its depositories are described in a booklet, *Science Information Available from the Atomic Energy Commission* (TID-4550), which may be obtained without charge from the USAEC Division of Technical Information.
- Avail: Univ. Microfilms. Documents so indicated are dissertations selected from *Dissertation Abstracts*, and are sold by University Microfilms, Inc. as xerographic copy (HC), microfilm, or microfiche at the prices shown. Microfiche are available only for those dissertations published since January 1, 1970. All requests should cite the author and the Order Number as they appear in the citation.
- Avail: HMSO. Publications of Her Majesty's Stationery Office are sold in the U.S. by British Information Services (BIS), New York City. The U.S. price (including a service charge) is given, or a conversion table may be obtained from BIS.
- Avail: National Lending Library, Boston Spa, England. Sold by this organization at the price shown. (If none is given, an inquiry should be addressed to NLL)
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- Avail: U.S. Patent Office. Sold by Commissioner of Patents, U.S. Patent Office, at the standard price of 50 cents each, postage free. (See discussion of patents and patent applications below.)
- Other availabilities: If the publication is available from a source other than the above, the publisher and his address will be displayed entirely on the availability line or in combination with the corporate author line.

(1) Functions of the Clearinghouse for Federal Scientific and Technical Information were transferred to the NTIS in September 1970.

EUROPEAN AVAILABILITY OF NASA AND AGARD DOCUMENTS

Facsimile copy or microfiche of NASA and NASA-sponsored documents identified by both the symbols "*" and "#" and those AGARD reports that are on microfiche may be purchased from:

ESRO/ELDO Space Documentation Service
European Space Research Organization
114, av. de Neuilly
92-Neuilly-sur-Seine, France

AVAILABILITY OF DOCUMENTS TO REGISTERED NASA INFORMATION USERS

In addition to the common availability of all documents through the above sources, a limited number of information services are provided by NASA to those having a contractual or co-operative relation to NASA or whose scientific and engineering activities relate to space and aeronautics research. Organizations qualified to receive *STAR* without charge (see p. i) also may qualify for one or more of these services. Organizations that are not registered with NASA and wish to consider registering should request Form 713, Registration Form - Technical Publications, from the NASA Scientific and Technical Information Facility. Subject to the conditions of the approved registration forms, the following services may be made available:

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Secondary distribution of NASA reports on microfiche only (i.e., documents in *STAR* designated by both an asterisk (*) and a # symbol), may be obtained on request by qualified recipients that do not receive microfiche on initial distribution. Organizations that are registered to receive reports should complete a Form 492, Document Request, for each document request and transmit it to the NASA Scientific and Technical Information Facility.

Department of Defense documents (identified by the "AD" prefix) are generally available as microfiche on secondary distribution to (DDC) registered users at no cost from Defense Documentation Center, Cameron Station, Alexandria, Virginia 22314.

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Patents and patent applications owned by NASA are announced in *STAR* under appropriate subject categories and are referenced in the *STAR* indexes. They are identified by U.S. Patent No. and U.S. Patent Appl. Serial No. (SN) in the report/accession number index. The NASA Case number appears in lieu of the report number in the other indexes. In the abstract section of *STAR*, patents and patent applications (those for which no patents have yet been issued) are identified by respective subtitles in the citations.

Copies of NASA patent application specifications are sold by the National Technical Information Service at the established unit price of \$3.00 for hard copy and 95 cents for microfiche. The NASA accession number should be used for ordering from NTIS.

Microfiche, but not paper copies, of the NASA patent application specifications also are available.

ble to registered requesters only at no charge from the NASA Scientific and Technical Information Facility. (Patents, in contrast to the patent applications, are not available as microfiche nor are paper copies of patents available from this source.)

Printed copies of the NASA patents, when identified by the U.S. patent number, may be purchased for 50 cents each, postage free, from:

Commissioner of Patents
U.S. Patent Office
Washington, D.C. 20231

It is necessary that payment be remitted in advance, preferably by money order or check payable to the Commissioner of Patents. Prepaid purchase coupons for ordering are also available from the Patent Office.

The patents and patent applications announced in *STAR* are owned by NASA and are available for royalty-free licensing. Requests for licensing terms and further information should be addressed to:

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National Aeronautics and Space Administration
Washington, D.C. 20546

COSATI SUBJECT CATEGORY CODE

In the citation of each NASA-supported document and of some non-NASA documents is a code, e.g., CSCL 25A, that indicates the subject category assigned to it from the COSATI Subject Category List (first ed. December, 1964) published by the Committee on Scientific and Technical Information of the Federal Council for Science and Technology.

INDEXING VOCABULARY

The Preliminary Edition of the *NASA Thesaurus* (December 1967) (NASA SP-7030) is used as the authority for the indexing vocabulary that appears in the subject index. The *NASA Thesaurus* should be consulted in examining the current indexing vocabulary, including associated cross-reference structure. Only the subject terms that have been selected to describe the documents abstracted in this issue appear in the subject index. Copies of the *NASA Thesaurus* may be obtained from the National Technical Information Service or the U.S. Government Printing Office at \$8.50 for the three-volume set.

ADDRESSES OF ORGANIZATIONS

SUBJECT INDEX

American Institute of Aeronautics
and Astronautics
Technical Information Service
750 Third Ave.
New York, N.Y. 10017

British Information Service
845 Third Ave.
New York, N.Y. 10022

Commissioner of Patents
U.S. Patent Office
Washington, D.C. 20231

Defense Documentation Center
Cameron Station
Alexandria, Virginia 22314

ESRO/ELDO Space Documentation Service
European Space Research Organization
114, av. de Neuilly
92-Neuilly-sur-Seine, France

Her Majesty's Stationery Office
P.O. Box 569, S.E. 1
London, England

NASA Scientific and Technical Information
Facility
P.O. Box 33
College Park, Maryland 20740

National Aeronautics and Space
Administration
Scientific and Technical Information
Office (KSI)
Washington, D.C. 20546

National Lending Library for Science
and Technology
Boston Spa, Yorkshire, England

National Technical Information Service
Springfield, Virginia 22151

Superintendent of Documents
U.S. Government Printing Office
Washington, D.C. 20402

University Microfilms, Inc.
313 North First Street
Ann Arbor, Michigan 48106

University Microfilms, Ltd.
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London, England

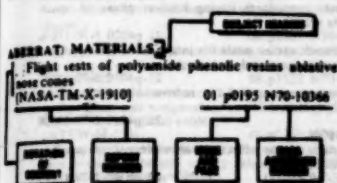
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Postfach 880
Federal Republic of Germany

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TYPICAL SUBJECT INDEX LISTING



The subject heading is a key to the subject content of the document. The Notation of Content (NOC), after the title of the document, is used to provide a more exact description of the subject matter. The report number helps to indicate the type of document cited (e.g., NASA report, translation, NASA contractor report). The issue and page identify the STAR issue in which the document was announced and the page number on which the citation appears. The NASA accession number denotes the number by which the citation is identified on that page. The NOC's are arranged under each subject heading in ascending accession number order.

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ASTARS

- Space densities of stars and interstellar extinction for Monoceros region in Orion constellation
[REPT-1] 05 p0957 N70-15646
- Summaries of investigations on space densities of stars of spectral types earlier than F8
05 p0960 N70-16168
- Radial velocities of 27 stars of spectral types A and F in search of delta Scuti variable
10 p1991 N70-23662
- Increase in velocity distribution with bright above plane found by spectrographic observations of radial velocities of A stars
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- Element abundances in Sirius and Menk
24 p4600 N70-42131

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- EA-1 F aircraft bridle shed mechanism by steam catapult mechanism launch
[AD-694934] 05 p0783 N70-15896

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- Congressional testimony on falsification of data from laboratory tests of brakes for A-7D aircraft
19 p3472 N70-34152

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U ECHO 1 SATELLITE

A-12 SATELLITE

U ECHO 2 SATELLITE

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- Full scale wind tunnel tests to determine aerodynamic characteristics of A-7B aircraft with thrust reversal
[NASA-TM-X-1985] 10 p1768 N70-23523

ABBREVIATIONS

U SYMBOLS

ABEL FUNCTION

- Simple proof of theorem concerning Abelian groups
[PB-184254] 01 p0120 N70-10639
- Generalization of Kulkarni criterion for direct sums of countable reduced Abelian groups
[PB-184255] 01 p0120 N70-10640
- Generalization of classical theory of primary Abelian groups
[PB-184257] 01 p0120 N70-10648
- Abelian group without isomorphic refinement property
[PB-184105] 01 p0127 N70-11117
- Renormalizability of massive non-Abelian vector fields using functional techniques
[ILO-1388-553] 02 p0336 N70-12372
- Ideals in group ring of finite p-group over integers modulo p
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- Polynomial method for approximating radiation intensity from plasma light source represented by Abel transform
[NASA-TN-D-5677] 07 p1332 N70-19310
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- Deals of locally compact Abelian groups
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[DESS-4205] 09 p1660 N70-21499
- Metabelian groups with self centralizing elements
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- Periodic Abelian groups
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- Quasi-states on Abelian C*-algebras, conditions for linearity, and relation to quantum mechanics
10 p1874 N70-22680

- Quasi-endomorphism algebras of torsion free Abelian group
11 p2062 N70-24786
- Riesz space structure of Abelian W*-algebras
11 p2066 N70-25036
- Characterization of infinitely divisible positive definite functions and measures
[RR-15/KS/1] 14 p2604 N70-28653
- Characteristics of Abel functions and vector lattices
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[AD-696491] 06 p1101 N70-17289
- Aberration coefficients with analytical expression for quadrupole lens system
[CEA-N-1110] 14 p2659 N70-28532

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- Design engineers concept of relationship between system design characteristics and technician skill level
[AD-695781] 12 p2157 N70-26386

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- Conditions for life in universe, search for quarks and color survey of moon and earth from space
[PSS-36183] 15 p2858 N70-29281
- Origin of organic substances and complex compounds in universe constituting basis of terrestrial life
15 p2858 N70-29282
- Abiogenesis and effect of ultraviolet radiation on one-celled organisms
[NASA-TT-F-13188] 20 p3673 N70-37502
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- Surface roughness effects on crosshatching ablation patterns of wind tunnel models
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- Ablation and thermal analysis of Apollo lunar radioisotope heater
[SC-RR-69-303] 05 p0964 N70-15922
- Enthalpy distribution measurement at 5 MW arc heater cath using ablation technique
[AD-697769] 09 p1748 N70-22245
- Dual ablation measurement technique using sonic methods for tracing char and char virgin material interface recessions
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Electrical conductivity and structure of chromium silicon films during crystallization under heat treatment

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Cast grain refining of uranium alloys in primary gamma crystallization

Spherulitic graphite obtained in cast iron without use of spherulizers

Crystallization kinetics of Li₂O-SiO₂ glass ceramics as function of mechanical properties

Kinetics of crystallization of high temperature glass systems

Photolytic dissociation of silver iodide exposed to solar radiation

Microbeam spectra and X ray analysis of crystallization in lithium aluminosilicate glasses

Preparation and crystallization behavior of amorphous nickel-phosphorous thin films

Morphology and kinetics of deformed polybutene-1 melt crystallization

Crystallization in fluidized beds for producing coarse-grained products of uniform size

Crystallization kinetics and impact tests of glass fiber-epoxy composites

Synthesis and crystallography of compounds in cesium oxide-aluminum trioxide-silicon dioxide system

Study of crystallographic and magnetic properties of cubic manganese spinels by neutron scattering

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High temperature homogenization technique for crystallographic study of barium, strontium and lead sulfates

Crystal diffraction neutron monochromator for a gamma reaction study

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Conference on crystallography including electron and X ray diffraction

Determining work functions and temperature coefficients by relative field emission method

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X ray diffraction study of magnetic and crystallographic properties of Pr-Gd alloys

Preparation and crystallography of complex compound B9C2H11 Co B9C2H10 Co B9C2H9 Co B9C2H8 Co B9C2H7 Co

Magnetic and crystallographic orientation produced in ferrites by hot working

Crystallography, crystal structure, and organic compounds in information systems

Crystallographic and spectroscopic investigation of trimethylamine-boron trichloride, triiodide, triiodide, and trifluoride complexes

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Radio-crystallographic apparatus for examination of irradiated materials

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Crystal structure and properties of modified zinc arsenate compound

Orientation drawing of polyethylene terephthalate fibers

Crystal structure of ternary phase metal carbide in vanadium-tantalum carbide system

Crystal structure of 4-methyl thiomorpholine 1, 1-dioxide using X ray diffraction techniques

Crystal structure and properties of modified zinc arsenate compound

Crystal structure and properties of modified zinc arsenate compound

Crystal structure and properties of modified zinc arsenate compound

Crystal structure and properties of modified zinc arsenate compound

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Crystal structure and properties of modified zinc arsenate compound

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CUBIC EQUATIONS

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- Research progress on isotopic fuel elements for ORNL reactors
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DENSITY [NUMBER/VOLUME]

DENSITY [MASS/VOLUME]

NT ATMOSPHERIC DENSITY
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Approximate solution of boundary value problem on closely separated circular disks at equal potential
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FLUORESCENCE EMISSION
U FLUORESCENCE
FLUORIDES

ALUMINUM FLUORIDES
ANTIMONY FLUORIDES
BARIUM FLUORIDES
BORON FLUORIDES
CALCIUM FLUORIDES
CHLORINE FLUORIDES
COPPER FLUORIDES
CRYOLITE
HYDROFLUORIC ACID
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LITHIUM FLUORIDES
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- NT BORON FLUORIDES
- NT CALCIUM FLUORIDES
- NT CHLORINE FLUORIDES
- NT COPPER FLUORIDES
- NT CRYOLITE
- NT DIFLUORO COMPOUNDS
- NT FLUORIDES
- NT FLUORINE ORGANIC COMPOUNDS
- NT FLUORITE
- NT FLUORO COMPOUNDS
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NT ELECTRON FLUX DENSITY
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FUEL CELL CATALYSTS

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Gravity gradient attitude stabilization

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Rotational dynamics and equilibrium orientations of gravitationally stabilized satellite augmented by constant speed rotor

Generalized approach to gravity gradient stabilization of gyrostat satellites

Pervasive damping and stability of gravitationally stabilized satellite augmented by constant speed rotor

Results of study on gravitationally stabilized satellite augmented by constant speed rotor

Gravity gradient stabilization system for Applications Technology Satellites - systems analysis and software

Gravity gradient stabilization system for Applications Technology Satellites - boom subsystem and combination passive damper

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Gravity gradient dynamics experiments using Radio Astronomy Explorer Satellite in earth orbit

Time and fuel optimal control for gravity gradient spacecraft

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Attitude reacquisition of gravity gradient control moment gyro stabilized spacecraft

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Modified inertial angular acceleration balance torque for detecting gravitational changes

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NT AMMONIUM PERCHLORATES

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NT BORON CHLORIDES

NT BORON FLUORIDES

NT BROMIDES

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NT ADENOSINE TRIPHOSPHATE [ATP]
NT ADENOSINES
NT ASCORBIC ACID
NT AZINES
NT AZOLES
NT AZULENE
NT BETAINES
NT BIOTIN
NT CARBAZOLES
NT HYOSCINE
NT INDOLES
NT METHYLENE BLUE
NT PHTHALOCYANIN
NT PROMETHAZINE
NT PYRROLES
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NT FERRITES

NT FERRITES

NT FERROCENES

NT HEMATITE

NT IRON CHLORIDES

NT IRON CYANIDES

NT IRON OXIDES

NT LIMONITE

NT PYRITES

NT PYRRHOTITE

NT SIDERITES

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